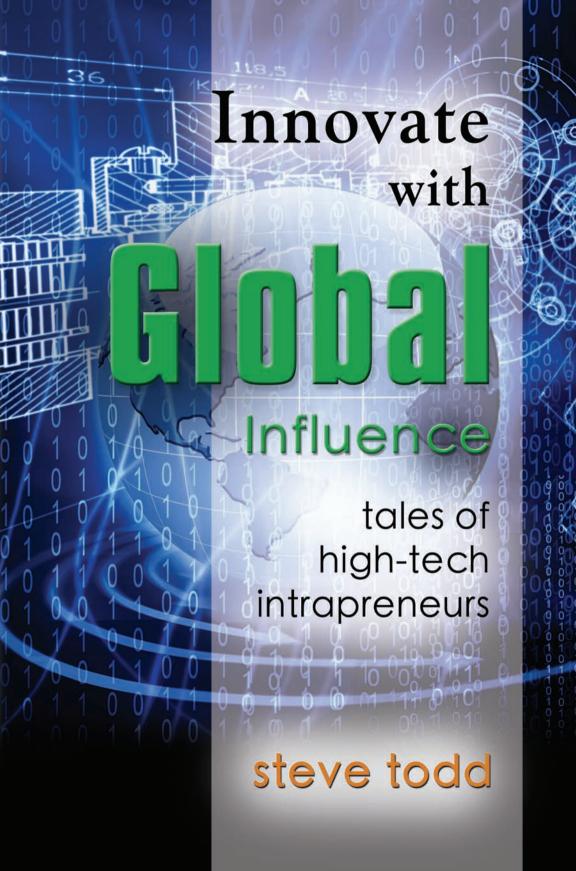
An idea from a Shanghai programmer generates millions of dollars in product sales. A developer in Tel Aviv inserts his software into hundreds of high-tech devices. A field engineer in Cork delivers an electronic shredding solution. A technologist in Bangalore creates breakthrough security software. A Russian intrapreneur delivers critical information capture software. Beijing researchers create groundbreaking new search algorithms. Read their stories. Learn their methods.

Innovate With Global Influence

Buy The Complete Version of This Book at Booklocker.com:

http://www.booklocker.com/p/books/5004.html?s=pdf



Copyright © 2010 Steve Todd

ISBN 978-1-60910-485-6

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written permission of the author.

Printed in the United States of America.

BookLocker.com, Inc. 2010

EMC, Captiva, Celerra, CLARiiON, Documentum, Iomega, Legato, Mozy, Networker, PowerPath, RecoverPoint, SRDF, and Symmetrix are registered trademarks of EMC Corporation and its subsidiaries.

VMWARE is a registered trademark of VMWARE, Inc. RSA is a registered trademark or trademark of RSA Security Inc. Microsoft and Office are trademarks of Microsoft Corp. Visual Basic, Excel, and Windows are registered trademarks of Microsoft Corp. Java is a trademark of Sun Microsystems.

Table of Contents

FOREWORD	1
SECTION I: GLOBAL PRESENCE	3
1. Introduction	5
2. The World Goes to Work	9
3. The Global Imperative	21
4. Seven Habits of an Intrapreneur	29
5. The Fourth Horseman	45
SECTION II: GLOBAL INNOVATION	55
6. Shanghai: SYMSTAT Innovation	57
7. Beijing: Personalized Clouds	67
8. Bangalore: ESI Innovation	77
9. Ireland: Certified Data Erasure	85
10. Israel: Component Collaboration	95
11. Russia: Captiva Innovation	107
SECTION III: CORPORATE INNOVATION	117
12. The Corporate Case	119
13. Transformers	129
14. Reel Them In	137
15. Growing the Type-I Population	145
16. Boundary Spanners	157
17. Egyptian Epilogue	
18. Acknowledgments: The Global Thank You	175
ABOUT THE AUTHOR	179

FOREWORD

Vijay Govindarajan

As I stood on the stage of the Nokia Theater in New York City, I looked out at a crowd reeling from the effects of the ongoing global economic crisis. It was May 2009, and the attendees had come to the World Innovation Forum hoping to gather actionable insight on innovation in the new world order. Changing times require radically new strategies.

To my left, in the balcony positioned twenty feet above the rest of the crowd, sat Steve Todd and the rest of the bloggers covering the conference. Steve was not only sharing his impressions of the conference with the rest of the world; he was also formulating his own action items to bring back to his multi-national corporation, EMC®.

In the months that followed, Steve and I began an exciting collaboration on one of the most critical business themes of our time: reverse innovation.

As professor of international business at Dartmouth College, I am witnessing a great shift in global markets. The income gap between the United States and developing countries is so large that products designed for American consumers simply cannot be adapted to, for example, Chinese or Indian mass markets. These locations, however, are expected to experience the largest expansion of any markets in the coming decade. Large, multi-national corporations headquartered in wealthier locales simply cannot be globally competitive unless innovation occurs natively – in the developing countries.

The essence of reverse innovation is that products developed locally are distributed globally. It is a formidable organizational challenge for incumbent multi-nationals in wealthy countries to operate according to this model. Entrenched intrapreneurs at corporate

TALES OF HIGH-TECH INTRAPRENEURS

headquarters must share (or cede) creative control to their satellite counterparts.

This phenomenon of far-flung innovation is especially true in the high-tech industry. The amount of digital information being generated worldwide is staggering, especially in developing countries. Corporations like EMC specialize in this market, and already employ R&D teams in many of these countries. These locations were established as part of a sound plan of globalization; EMC expanded its global presence while minimizing costs.

In my role as Chief Innovation Consultant at General Electric, I consulted on the development of a global innovation framework that unlocked the innovative potential of employees worldwide. This new framework received strong support and implementation at the highest executive levels.

What I find inspiring about EMC is that the cultural shift to reverse innovation is being largely driven by the employees in the trenches! This book is filled with stories of global intrapreneurs who consistently reach across geographical boundaries to deliver breakthrough product innovation.

Steve's storytelling is significant in that he is also in the trenches, right alongside his co-workers. Whether they be in Russia, Ireland, Israel, India, China, or Egypt, Steve and his co-workers recognize the global opportunity in front of them. No stranger to innovation himself (he is named on 160+ patent applications!), Steve describes a road to reverse innovation that relies on the mentoring and transfer of intrapreneurial skills to global sites.

Innovate With Global Influence is more than a collection of inspiring stories of innovation. It is both an employee handbook and a corporate framework for reverse innovation.

Vijay Govindarajan Professor of International Business Dartmouth College

SECTION I: GLOBAL PRESENCE

1. Introduction

At 6 p.m. in Cambridge, Massachusetts, a software engineer finishes his day. He starts a download of a video clip before he heads for home.

Bits from the video clip begin to travel a rather unique journey. They are copied from his laptop onto a network. They join the Internet via a network switch, and ultimately reach the intended destination on the inside of a storage system housed in the back room of a test lab in Hopkinton. His information is safely stored in no time at all.

Then it gets interesting.

The storage system begins to intelligently analyze the information. It determines the bits represent a video file. It recognizes the creator of the video file. And it uses this information to determine where else in the world this information might go.

Video data written by this particular engineer are dynamically routed to two additional locations: Santa Clara, California, and Shanghai, China. Software engineers in those facilities are still at work (or about to show up). The storage system automatically distributes the information to both locations. Any eventual edits made in these locales will automatically travel back to Cambridge.

The information, in this case, follows the sun. Other types of information, such as spreadsheets and business presentations, might get sent to London, or to Singapore.

This information storage system is unlike any of its predecessors. Engineers who build these sophisticated products play a starring role in the new age of digital expansion. More than ever before, they need to find solutions to match the explosive pace of information growth today and tomorrow.

Customers of information technology products face challenges as they strive to cope with growing quantities of data. Continuous acquisition of new storage devices is expensive, and more than just the purchase price must be considered. System administrators must be paid to manage all that information. Government agencies' information

Introduction

audits can trigger huge fines if fault is proven. The electricity required to power information storage devices results in skyrocketing utility bills.

These problems are experienced all over the world. Engineers can no longer solve these problems solely within the confines of corporate headquarters in the United States; the growing markets are in developing countries. Large corporations that deliver high-tech products need innovative engineers in locations around the globe. These engineers can interact directly with their local customers and build a better product to meet a particular locale's needs.

Many people believe entrepreneurs from native start-ups will have a better chance of penetrating these markets with new high-tech gadgets than will foreigners. That may be true. Do multi-national corporations stand a chance? They do. If they can build a network of globally distributed innovators, the resources they bring to bear can be a powerful advantage.

Corporations with a global presence need to take advantage of intrapreneurs in developing countries. Intrapreneurs are employees at large corporations who have the unique ability to consistently deliver their own ideas. Like their counterparts – the entrepreneurs – these passionate creators can motivate their teammates to innovate and build.

Intrapreneurs in developing countries are motivated by something their U.S.-based counterparts do not possess: desperation. Customers in developing countries have strong needs for inexpensive technology that improves their lives. This desperation, either experienced or directly encountered by intrapreneurs, can fuel innovation in ways not possible in wealthier locations. Low-cost products developed to address local needs may possess attractive price points, adding to their import appeal in countries such as the United States.

As a new wave of university students begins to explore job opportunities, they may consider taking college courses in entrepreneurship to increase their odds of landing an innovative job. If they are lucky, they may be exposed to the concept of an intrapreneur in a "corporate entrepreneurship" course.

Introduction

What many of them are not being taught, however, is that an innovative career may best be pursued at a large, global corporation. The changing economic landscape favors multi-national corporations that already have a large R&D footprint in the world's developing countries.

In this sense, a young intrapreneur has a distinct advantage over a young entrepreneur: a global experience.

This option goes against the grain of conventional thinking. Aren't start-ups filled with energy and passion, while corporations are filled with obstacles and red tape?

It depends.

This book is filled with the stories of the global intrapreneurs who work for EMC Corporation. Each story describes a young innovator who has taken the risk of proposing an idea and then stood behind it and delivered.

The stories, when taken as a whole, serve as a template for intrapreneurial behavior. They are ensconced within a corporation that has implemented a new, global management framework that, by necessity, decentralizes innovation. Idea generation is a level playing field and the opportunity to deliver a global idea is there for the taking by any employee who practices intrapreneurial qualities and characteristics.

When the sun sets on the United States, it starts to rise in China. That's when the intrapreneurs begin showing up to work.

When the sun rises on mainland China, Hang Guo begins his short commute to Zhongguancun, a technology district located in northwestern Beijing. Zhongguancun has often been referred to as "the Silicon Valley in China." As Hang rides the bus to his office at the Tsinghua Science Park, he passes by two of China's most revered universities: Peking University and Tsinghua University. Figure 1 depicts the high-tech neighborhood through which Hang travels each working day.

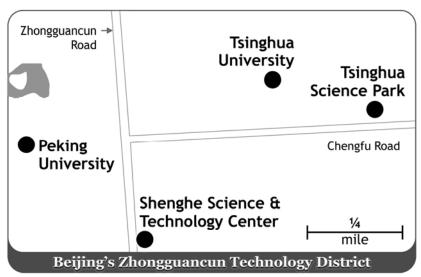


Figure 1. Co-located high-tech centers and academia in Beijing.

The co-location of industry and academia is integral to Beijing's reputation for high-tech innovation. These universities have long been heralded as two of the top learning centers in all of China. Application for admission is strictly limited to the top scorers from China's National Entrance Examination, and only the most elite are accepted. Graduates from these institutions go on to play important roles in nearly every area of China, producing an impressive array of

achievements including publication in scholarly journals and presentations at international conferences. Both universities have excellent computer science departments.

Hang is a recent graduate of Tsinghua University. His wife graduated from Peking University. The two are frequent visitors to the Peking University library. With its 51,000 square meters, more than 5,000 seats, and in excess of 6,500,000 items, the library is the largest of any university in all of Asia.

Hang works in one of the most innovative, high-tech environments in the world. Learning and research are revered in Beijing. When he chose to work at EMC, he did not settle for a simple job maintaining software written by someone else.

He wanted to build something new.

At sunrise and approximately 600 miles to the south of Beijing, Hang's corporate co-worker, Viki Zhang, is making her way to her office in Shanghai. EMC has multiple worldwide centers of excellence (COEs). Each COE has a strong workforce of R&D experts. Figure 2 depicts the distance between the Beijing COE and the Shanghai COE.

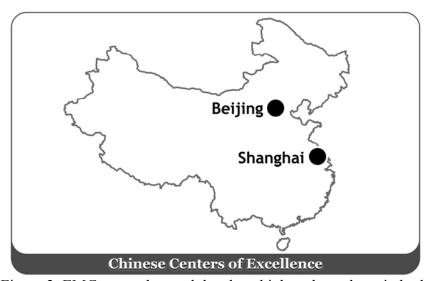


Figure 2. EMC researches and develops high-tech products in both Beijing and Shanghai.

Shanghai is not only one of the biggest cities in China; it is also one of the largest cities (by population) in the world. It is a massive center of commerce and finance, and serves as a favored locale for thousands of domestic and international companies. Young people flock to the city to find jobs in the booming economy. One of these people is technologist Viki Zhang.

Viki is an innovator and a problem solver. She enjoys collaborating on the building of next-generation high-tech products and solutions for her country and her world. Before she starts each workday, however, she has a very practical problem to solve: how to get to work.

Shanghai's public transportation options are numerous. Whether the vehicle of choice is a bus, train, boat, or car, the city is a massive criss-crossing of railroads, bridges, channels, highways, and subways. Many companies offer free shuttle bus services to facilitate their employees' commute to work. When she first started working, she lived on the outskirts of the metropolis. As her responsibilities for interaction with her global account team grew, she moved deeper into the city and closer to her job.

And she bought a small, red bicycle.

The destination for her bike ride is the Wu Jiao Chang commercial area of Shanghai's Yang Pu District, as shown in Figure 3.



Figure 3. Shanghai's Yang Pu District is ideally situated for bicycle commuters.

Viki's commute takes her past Jiangwan Stadium (formerly known as Shanghai Stadium). Completely renovated in 2007, the stadium has hosted such major events as the Chinese X Games and the Special Olympics. On most mornings, she exchanges pleasantries with the neighborhood's many fitness enthusiasts who engage in morning exercises. The hustle and bustle of this thriving community energizes and prepares her for innovation as she arrives at her office park.

Over 3,000 miles away, in Bangalore, India, Arun Narayanaswamy begins his 10-minute drive to work. Everywhere he looks, he sees construction to facilitate travel and enterprise. There are flyover bridges being built, as well as new streets and new intersections. Commercial buildings are being erected, along with private residences rising up to house the thousands of workers moving into the city to capitalize on the booming economy and job market.

His office is located in a brand new facility on Outer Ring Road, near Marathahalli, a bustling neighborhood with an incredible number of high-tech corporations, including EMC, IBM, Oracle, Cisco, HP, and Google. The EMC facility, located in the Bagmane World

Technology Center, was opened in September 2009 as part of a \$1.5 billion investment over a five-year period. In spite of the enormous number of new technology companies and travelers to the region, Arun still stops his car for cattle crossing the highway!

Bangalore's residents and visitors enjoy the city's popular parks and tourist destinations. Cubbon Park, located west of Marathahalli in Bangalore center, is a 300-acre public park that boasts over 6,000 plants and trees, including indigenous and exotic botanical species. The park can be approached via the magnificent Karnataka High Court building, which now serves as the seat of legislature for the area.

Local employees tend to arrive at work via company-provided bus transportation, but motorbikes are an increasingly popular commuting mechanism. Many employees also travel back and forth between the Bagmane World Technology Center and the India Institute of Management. The institute, popularly known as IIM, ranks among the top business schools in the world and attracts some of the brightest talent in the country. Employees take courses to enhance their knowledge of some of the latest and best management practices in the world. Figure 4 depicts the location of Arun's office and the locations of local parks and education.

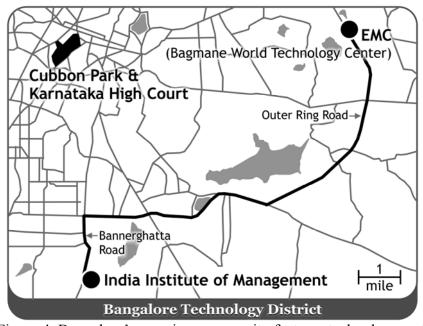


Figure 4. Bangalore's growing community features technology and academia.

Just over 3,000 miles to the west of Bangalore, Assaf Natanzon begins the commute to his office in Ramat Gan, Israel. Ramat Gan is located just east of Tel Aviv. Distance from the office determines how employees commute to Ramat Gan. Assaf travels by foot or by car; many others commute by bike or by train. In Israel, the work week begins on Sunday and extends to Thursday.

Assaf's office is located in the diamond exchange district in the northwestern section of Ramat Gan. The area contains numerous skyscrapers, including the Moshe Aviv tower, the tallest building in Israel. Assaf works in one of multiple EMC offices that make up the Israel COE. These offices are spread out across a 15-mile radius.

Israel has a unique ability to attract venture capital. The Tel Aviv area ranks second in the world (Silicon Valley ranks first) for highest number of startups. *New York Times* columnist David Brooks noted, "With more high-tech startups per capita than any other nation

on earth, by far, corporate investors and venture capital firms pour an estimated \$1.5 billion into new ventures there each year. Israel, with 7 million people, attracts as much venture capital as France and Germany combined."

Employees travel frequently between the three offices within the country to promote cross-pollination of technologies and experiences. Israel's advanced academic institutions also provide foundations for the thriving high-tech industry. Four of the top 30 computer science universities in the world are located in Israel. Figure 5 depicts the locations of one of Israel's COEs and its proximity to these academic institutions.

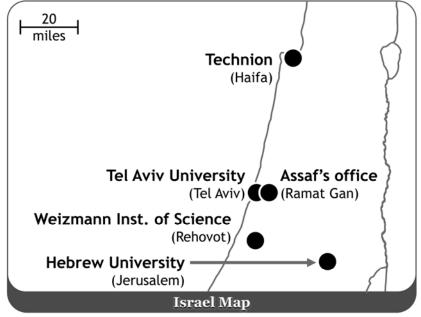


Figure 5. High-tech facilities and academic institutions in the country of Israel.

Just over 1,900 miles to the north of Ramat Gan, Denis Kiryaev rides the subway into St. Petersburg, Russia. The subway itself is one of the most attractive in the world, with many of the stations adorned

with exquisite artwork and extensive decorations. The city is located adjacent to the Gulf of Finland; water accounts for 10 percent of the city's area. St. Petersburg is sometimes called the "Venice of the North" due to its many rivers, canals, and waterways. The more than 300 bridges across these various waterways can make commuting to work in St. Petersburg a daunting task. Not all bridges accommodate cars and alternative paths are limited. Traffic jams inevitably occur and add to the subway's appeal with working commuters.

Subways from various directions run deep under the city's landmarks. The historic center of St. Petersburg is the Palace Square, home to Catherine the Great's Winter Palace. Located within the Winter Palace is the State Hermitage, an enormous museum of art, history, and culture that contains artifacts from around the world. The Hermitage is adjacent to the main street, Nevsky Prospekt, a long, wide thoroughfare that boasts a large number of shops, theaters, and restaurants.

Just across the Neva River lie many of St. Petersburg's universities, including two prominent technical schools: St. Petersburg State University, and the State University of Information Technologies.

Commuters heading for the EMC COE in St. Petersburg disembark at the Vasileostrovskaya subway station onto Sredniy Prospekt and walk the rest of their way to work in this bustling business district. Figure 6 depicts the landmarks of St. Petersburg passed by Denis and his co-workers on their way to work.

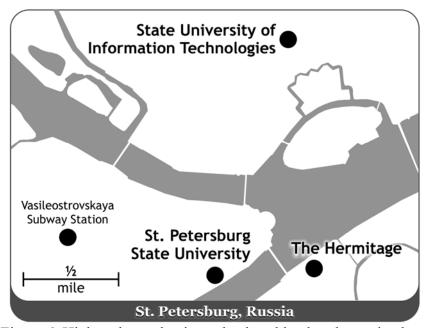


Figure 6. High-tech, academia, and cultural landmarks are in close proximity in St. Petersburg.

Over 1,500 miles to the west of St. Petersburg, Shane Cowman arrives to work in Cork, Ireland. Cork is the second largest city (by geography) with the third highest population in Ireland. No matter which direction he and his co-workers travel from home to work, the commute is picturesque.

Just to the south of Cork are the quaint, narrow streets of Kinsale, the Fransiscan Abbey at Timoleague, and the beaches of Clonakilty (some of the best beaches in Ireland).

Commuters from the west pass through Killarney, renowned for its national park's rolling hills, streams, lakes, and waterfalls. The drive from Killarney is green as far as the eye can see, and roundabouts dot the driver's path to Cork.

The city itself contains two of Ireland's top universities: University College Cork, and the Cork Institute of Technology. Between the high-tech opportunities in the city and the beauty of

Ireland's countryside, it is no wonder the EMC Cork COE has consistently been voted one of the top places to work in Ireland. Figure 7 depicts Cork's location.

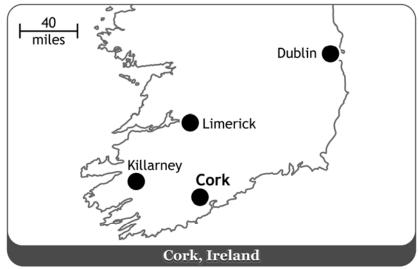


Figure 7. Cork, Ireland, is home to EMC and spectacular natural beauty.

Although their commutes are all different, when these intrapreneurs arrive at work, they share a common objective: innovation on a global scale.

Perhaps our various commutes provide us motivation to not only succeed, but also excel once we reach our place of work. The effort one takes to connect, either via digital network or face to face in the office, provides a springboard to culture, teamwork, and the inherent desire to succeed and surpass our own wildest expectations.

Daniel Pink, in his book *Drive: The Surprising Truth About What Motivates Us*, calls these individuals Type-I personalities. They are not motivated solely by extrinsic carrots (rewards) and sticks (penalties). Their reward is the activity of the work itself. The opportunity to generate (and work on) their own ideas is so valuable to them that they decide to often exceed customers' desired solutions.

It's a good thing that they do, because employee innovation has become a global imperative.

An idea from a Shanghai programmer generates millions of dollars in product sales. A developer in Tel Aviv inserts his software into hundreds of high-tech devices. A field engineer in Cork delivers an electronic shredding solution. A technologist in Bangalore creates breakthrough security software. A Russian intrapreneur delivers critical information capture software. Beijing researchers create groundbreaking new search algorithms. Read their stories. Learn their methods.

Innovate With Global Influence

Buy The Complete Version of This Book at Booklocker.com:

http://www.booklocker.com/p/books/5004.html?s=pdf